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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/199,816	11/25/98	SHIMADA	M 052241

MMC2/1004
SUGHRUE, MION, ZINN, MACPEAK & SEAS
2100 PENNSYLVANIA AVENUE NW
WASHINGTON DC 20037-3202

EXAMINER

DICKENS, C

ART UNIT

PAPER NUMBER

2853

DATE MAILED:

10/04/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks



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09/19/99	11/25/98	SHIMADA	M	052241
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WASHINGTON DC 20037-3202

DICKENS, C
EXAMINER

2883
ART UNIT PAPER NUMBER

10/04/00

DATE MAILED:

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

OFFICE ACTION SUMMARY

☒ Responsive to communication(s) filed on 7-17-00

☐ This action is FINAL.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 D.C. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire - 3 - month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

- ☒ Claim(s) 1-66 is/are pending in the application.
Of the above, claim(s) 56-63 is/are withdrawn from consideration.
☐ Claim(s) is/are allowed.
☒ Claim(s) 1-55, 64-66 is/are rejected.
☐ Claim(s) is/are objected to.
☐ Claim(s) are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
☒ The drawing(s) filed on 8/25/99 is/are objected to by the Examiner.
☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
☒ The specification is objected to by the Examiner.
☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
☒ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been received.
☐ received in Application No. (Series Code/Serial Number) _____
☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- ☒ Notice of Reference Cited, PTO-892
☒ Information Disclosure Statement(s), PTO-1449, Paper No(s) 4,8910
☐ Interview Summary, PTO-413
☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
☐ Notice of Informal Patent Application, PTO-152

—SEE OFFICE ACTION ON THE FOLLOWING PAGES—

BEST AVAILABLE COPY

DETAILED ACTION

Election/Restriction

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
2. I. Claims 1-55 and 64-66, drawn to ink jet recording head, classified in class 347, subclass 70.
II. Claims 56-63, drawn to method of manufacturing an ink jet recording head, classified in class 216, subclass 27.
3. The inventions are distinct, each from the other because of the following reasons: Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the apparatus can be made by another and materially different process such as lamination, drilling or punching.
4. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

5. A telephone call was made to request an oral election to the above restriction requirement, but did not result in an election being made.


Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

6. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Dickens whose telephone number is (703) 305-7047.



cd/dickens
June 15, 2000



John Barlow
Supervisory Patent Examiner
Technology Center 2800

DETAILED ACTION

This is the first Office Action on the merits for serial number 09/199,816, Ink Jet Recording Head And Ink Jet Recorder, filed 11/25/98.

Election/Restriction

1. Applicant's election without traverse of claims 1-55 and 64-66 in Paper No. 16 is acknowledged.
2. Claims 56-63 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 16.

Priority

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

4. The drawings filed on 1/25/99 have been approved by the Draftsperson.

5. The applicants are strongly advised to use the proper symbols for the illustrated elements, i.e., a piezoelectric element is not metal but shaded as such, in accordance with MPEP 608.02.

6. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the limitations in claims 4 and 5; lower electrode made of compression film; elastic film is made of the compression film only must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

7. Figures 7a and 7b should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).

Specification

8. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 112

9. Claims 1-55 and 64-66 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 1 it is unclear what element(s) has at least lower electrode, the piezoelectric layer and upper electrode respectively. It is also unclear what element(s) comprises the diaphragm or the recitations on lines 6-8. It is unclear where the pressure chambers and nozzles are located; and thus the recited elements are not structurally cooperative with each. "Pressure generation chambers", "nozzle openings", "diaphragm" and "a thickness direction" all lack positive recitation. Basically, it appears the applicants are claiming different embodiments throughout the claims. However, the base claim 1 does not read on the embodiments of the dependent claims and thus there is numerous inconsistencies. Applicants are strongly advised to review all the pending elected claims upon response to this Office Action to assure accuracy and consistency.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1-55 and 64-66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hasegawa et al. ('607) in view of Hasegawa et al. ('465).

'607 suggests the claimed an ink jet recording head essentially, including: flow passage substrate 101 in which pressure chambers 102 communicating with nozzle openings 109 are defined and a piezoelectric element being placed on one side of said flow passage substrate via a diaphragm 103 and having at least a lower electrode 104, piezoelectric layer 105 and an upper electrode 106, comprising: a zirconium oxide compression film having a compressive stress; wherein the compression film is a conductive film having a first conductive film and a second conductive film made of platinum/oxide metal (Figs. 2-4, 8a-8c).

However, '607 does not specifically suggest a compression film having a removal part. '465 suggests a removal part of a compressive film (Figs. 2a-3b) for the purpose of providing an ink jet head having improved liquid spray operations.

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have a compression film having a removal part in '607 for the purpose of

providing an ink jet head having improved liquid spray operations.

Contact Information

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Dickens whose telephone number is (703) 305-7047. Any inquiry of a general nature or relating to the status of this application should be directed to the receptionist or the customer service representative whose telephone numbers are (703) 308-0956 or (703) 308-4800 respectively. The fax numbers are (703) 305-3431 and (703) 305-3432.



cd/dickens
September 18, 2000